

University of St. Thomas, Minnesota
St. Catherine University

Social Work Master's Clinical Research Papers

School of Social Work

2016

Systematic Review: Social Work School Interventions for Food Accessibility Among Impoverished Children

Rebecca Christensen

University of St. Thomas, Minnesota, rachristensen36@outlook.com

Follow this and additional works at: https://ir.stthomas.edu/ssw_mstrp

Part of the [Clinical and Medical Social Work Commons](#), and the [Social Work Commons](#)

Recommended Citation

Christensen, Rebecca, "Systematic Review: Social Work School Interventions for Food Accessibility Among Impoverished Children" (2016). *Social Work Master's Clinical Research Papers*. 659.
https://ir.stthomas.edu/ssw_mstrp/659

This Clinical research paper is brought to you for free and open access by the School of Social Work at UST Research Online. It has been accepted for inclusion in Social Work Master's Clinical Research Papers by an authorized administrator of UST Research Online. For more information, please contact libroadmin@stthomas.edu.

Systematic Review: Social Work School Interventions for Food Accessibility Among
Impoverished Children

by

Rebecca A. Christensen, B.A.

MSW Clinical Research Paper

Presented to the Faculty of the School of Social
Work Program St. Catherine University and
the University of St. Thomas Twin Cities, Minnesota
In Partial fulfillment of the Requirements of the Degree
of Master of Social Work

Committee Members
Jessica Toft, MSW, Ph.D.,
Bill Manahan, M.D.
Deirdra Hoolahan, LICSW

The Clinical Research Project is a graduation requirement for MSW students at St. Catherine University/University of St. Thomas School of Social Work in St. Paul, Minnesota and is conducted within a nine-month time frame to demonstrate facility with basic social research methods. Students must independently conceptualize a research problem, formulate a research design that is approved by a research committee and the university Institutional Review Board, implement the project, and publicly present the findings of the study. This project is neither a Master's thesis nor a dissertation.

Abstract

Mothers and children from impoverished families discuss the continuous sacrifices related to food insecurity. Sacrifices like trade-offs can lead to attention of a family's immediate needs like food but these often come with the cost or sacrifice of other long term needs such as a means of income. Working with children and their families in attending to the underlying causes for their food insecurity may not only help to alleviate their immediate but also their long term needs in maintaining a standard of living. This systematic literature review was designed to investigate the research question: What interventions are being taken by social workers in schools to improve nutritional education and food accessibility among school-aged children from disadvantaged families? The literature review was set up using peer-reviewed and scholarly articles published after 2000. The PsycINFO database was systematically searched using the terms; "nutrition" and "school" and "social work" or "social services". From this search five articles satisfied criteria for inclusion but only four were available in full text and used in the final review. Five underlying themes emerged from the research synthesis regarding areas in which social workers could apply interventions for improve childhood nutrition; 1) policies, programs, and basic human rights, 2) deterrents and barriers to acquiring nutrition, 3) the school setting, 4) food quantity isn't enough, and 5) duties of the social worker. These five themes were then applied to the three levels of the ecological perspective; macro, mezzo, and micro. Moving forward, additional research is highly required regarding childhood nutrition and the role of the social worker in order to better understand other areas for potential interventions and improvement. Exploration of empowerment approaches should also be taken into consideration, especially those that align with parents and emphasize the point that food insecurity is not their fault, but a fault of society. This could potentially be an important therapeutic strategy as well as an area for further study.

Keywords: nutrition, children, intervention, social work, social services, poverty, school

Acknowledgments

To all those who supported me during this process, I thank you. Support came in the form of hugs, words, laughter, questions, invitations meals, walks, and outings. I want to especially thank my parents for supporting me and reminding me that I as long as I persevered, I could do anything. To my older sister who inspired me to further my education and who helped me become the person I am today. I am also grateful to my two cats for all of their love and support during the late hours of the day. To Dan and Nancy Hancock for their support and for introducing me to household grown fruits, vegetables, and herbs. To my God parents for providing information regarding school meals. To the faculty and staff of the Social Work program at St. Catherine University and the University of St. Thomas, thank you for your investment, interest, commitment and patience. To Jessica Toft for her understanding, dedication and humor, which made this process both manageable and meaningful. To Bill Manahan and Deirdra Hoolahan for being my committee members and for all their insight and feedback throughout this process. And to everyone else who supported me during this process. Thank you.

Table of Contents

Background	p. 5
Nutrition	p. 6
Developmental Disorders Related to Poor Childhood Nutrition	p. 9
Developmental Impact	p. 11
Nutritious Foods	p. 12
Family Dynamics	p. 13
Nutrition and Elementary Aged Children	p. 14
School-Based Interventions	p. 15
The Role of the Social Worker in Children's Nutrition	p. 16
Methods	p. 17
Research Question and Concept	p. 17
Study Types	p. 19
Levels of Publication	p. 20
Search Terms, Sensitivity and Specificity	p. 20
Review Protocol	p. 20
Research Synthesis	p. 24
Thematic Analysis of the Relevant Literature	p. 25
Macro Level	p. 26
Mezzo Level	p. 28
Micro Level	p. 35
Discussion	p. 36
Limitations	p. 41
Further Research and Implications	p. 42
References	p. 45

Background

A growing concern for countless individuals is that of insufficient nutrition and its effects on human development and health. In the United States the rate of impoverished people continues to grow. As of 2015, the percentage of individuals in poverty is 14.8% or 46.7 million people, which has increased significantly from 2000 when it was 12.2% or 33.3 million people (United States Census Bureau, 2014; Bishaw, 2013, p. 1). Poverty rates differ among racial-ethnic groups. African Americans have the highest poverty rate at 27.2%, followed by Hispanics at 25.6%, then Asians at 15.0%, and lastly Caucasians at 12.7% (Institute for Research on Poverty, 2012). In 2012, across these various ethnic and racial groups, the poverty rate amongst families was 11.8% or 9.5 million families. The poverty rate for children under the age of 18 years, however, is considerably higher at 21.1% compared to adults aged 18 to 64 years at 13.5 and those aged 65 and older at 10.0% (United States Census Bureau, 2014).

One research study in particular conducted by Sealy (2010) noted that health outcomes were “interwoven with such structural forces as income, economic conditions, education, geographic location, and access to resources” (p. 567). However, out of those five items he noticed that an individual’s “environment is directly correlated with health and well-being” (p. 567). Moreover, the majority of food available in poorer neighborhoods is commercialized food (p. 558). According to Eriksen and Manke (2011),

Sixty-one percent of retail food outlets in the city are fast-food restaurants, 12% are supermarkets, and 5% are produce stores and there are no farmers markets. Said another way, there are more than four times as many fast-food restaurants and convenience stores as supermarkets and produce vendors. (p. 558)

Therefore, Sealy (2010) contends that “the capability to be healthy and carry out the function of providing a balanced diet differs across communities” (p. 567 as cited in Fisher & Strogatz, 1999; Zenk et al., 2005). So with an ever-growing number of families and children living in poverty, the likelihood of them living in areas that promote healthier lifestyles is slim.

Furthermore, with a rise in the number of children growing up in impoverished families, the probability of being nutritionally deficient is exceptionally high. As of 2014, “48.2 million people lived in food-insecure households” with 7.9 million of those individuals being children and “914,000 children (1.2% of the Nation’s children) lived in households in which one or more child experienced very low food security” (United States Department of Agriculture [USDA], 2015, para. 6). The USDA also reported that 19.9% of these food insecure households had children under the age of six (para. 7).

Nutrition

Nutritional deficiency, also referred to as malnutrition, generally results from a poor diet that is lacking in essential nutrients (Healthline, 2015). These nutritional deficiencies occur when a person does not meet the “recommended daily amount (RDA) of a nutrient,” which “is determined by how much the body needs to stay healthy” (Healthline, 2015). According to the Environmental Working Group (EWG) and the World Health Organization (WHO), several nutrients that are essential to children’s development have been found to be either consistently above or below the RDA. Specifically, these vitamins and minerals – or micronutrients – required in trace amounts are essential to human development, health, and growth. Therefore, the consequences of their absence, as tiny as these nutrients are, are severe (Project Healthy Child [PHO], 2012; WHO, 2015).

Amongst these micronutrients are vitamin A, vitamin B1 (thiamine), vitamin B3 (niacin), vitamin B9 (folate), calcium and countless others. Out of these micronutrients, the ones that children are frequently lacking in are thiamine, folate, and calcium. Thiamine deficiency is a commonly recurring incident that impacts nerve, muscle, and heart development in children. Likewise, folate “aids in brain development and nervous system functioning,” which “plays a crucial role in the formation of a developing child’s brain and spinal cord” (Healthline, 2015). Like thiamine, calcium helps to ensure that the nervous system, heart and muscles are all functioning properly.

Unlike the majority of these micronutrients, levels of Vitamin A, which is crucial to one’s eye health and functioning, has been exceeding the RDA in “13 percent of children 8 and younger” (EWG, 2015). Niacin is also a micronutrient that is commonly ingested in higher quantities than the RDA and affects the emotional stability and levels of energy in children. Niacin is one of five nutrients (along with thiamin, riboflavin, iron, and folate) whose use is mandatory in enriching and fortifying virtually any and all food products. A policy of fortifying such foods was adopted in 1941 by the United States and has become standard practice not only in the United States, but in a number of other countries due to the incidence of pellagra that broke out between 1900 and 1940 (The World’s Healthiest Foods, 2015; Health Library for Disasters, 2015). Unfortunately, “5 million children ingest niacin in amounts exceeding the tolerable upper intake levels set by the Institute of Medicine” (EWG, 2015). This is due to an increase in the consumption of processed foods by children, in which food manufacturers add higher amounts of niacin than is mandatory by law.

More often than not, children from disadvantaged families frequently have parents who have fairly low levels of educational achievement, which in turn affects their socioeconomic

status and in what community their family resides (Pattern et al., 2012, p. 139). According to the Institute for Research on Poverty (2012), 19.7% of impoverished individuals lived in a central city, while 17.7% live in small towns and rural areas, and the remaining 11.2% lived in suburban areas. Since the majority of these families lived in regions relatively close to the city, it is likely that such parents have multiple jobs in order to maintain their family's place of residence (Patten et al., 2012, p. 144). As a result of the demanding family systems, parents began to "foster a need for quick and convenient meals," (Bowman, Gortmaker, Ebbeling, Pereira, & Ludwig, 2004, p. 116) which routinely are fast-food restaurants since they are "more readily available in poorer neighborhoods" (Eriksen & Manke, 2011, p. 588; Sealy, 2010). Moreover, Bowman et al. (2004) noted that "consumption of fast food among children in the United States seems to have an adverse effect on dietary quality" (p. 112) and for

Children and adolescents who ate fast food on a typical day, compared with those who did not, consumed more total and saturated fat, more total carbohydrate and added sugars, less dietary fiber, and more energy per gram of solid food (i.e., higher nonbeverage energy density). (p. 114)

Not only is poor nutrition bad for one's overall health, it is also related to the emergence of developmental disorders. Developmental disabilities refer to a group of psychiatric conditions, originating in childhood, that are due to an impairment in physical, learning, language, or behavior areas and that occur amongst all ethnic, racial, and socioeconomic groups (Center for Disease Control [CDC], 2015; University of Minnesota, 2015). In addition, about one in six children or approximately 17%, ages 3 to 17, who are living in the United States have at least "one or more developmental disabilities or other developmental delays" (CDC, 2015, para. 1). Several common developmental and learning disorders related to poor nutrition are

attention-deficit/hyperactivity disorder (ADHD) (Evans, 1999; Greenspan & Greenspan, 2009; Kirby, Woodwar, & Jackson, 2010; Stevenson et al., 2014), autism spectrum disorder (ASD) (Hurwitz, 2013; Kirby, Woodwar, & Jackson, 2010; Patten, Boranek, Watson, & Schuliz, 2012; Zhang, Mayton, & Wheeler, 2013; Zimmer et al., 2012), developmental coordination disorder (DCD) (Kirby, Woodwar, & Jackson, 2010), cerebral palsy, dyslexia (Evans, 1999), hearing loss, intellectual disability, learning disability, vision impairment, and countless others (“Research,” 1975). Again, all of these have been found to be affected by the consumption or inadequate consumption of certain foodstuff.

Developmental Disorders Related to Poor Childhood Nutrition

Several studies have found the prevalence of Attention-Deficit/Hyperactivity Disorder (ADHD) to be significantly higher among children from lower socioeconomic status families (American Psychological Association, 2015; Agency for Healthcare Research & Quality, 2015). One study in particular discovered that for children “the prevalence among lower socioeconomic group was found to be 16.33% and that among middle socio-economic group was 6.84%” (Venkata & Panicker, 2013, para. 5). ADHD is a neurobiological disorder that typically impacts attention skills, behaviors, impulsivity, and hyperactivity and usually becomes evident in children under the age of seven (Kentucky’s Office for the Americans with Disabilities Act [KYADA], 2015). According to the CDC (2015), “approximately 11% of children 4-17 years of age (6.4 million) have been diagnosed with ADHD as of 2011.” (para. 2) This is a substantial increase compared to 2007 with only 9.5% and even more so than 2003 when it was 7.8%, with an average annual increase of about 5% each year. Likewise, ADHD is far more likely to be diagnosed among boys (13.5%) between 3 and 17 years of age than girls (5.4%). African

American (9.8%) children are also more likely to be diagnosed with ADHD than Hispanics (5%) or Caucasians (8.7%) (National Resource Center on AD/HD, 2015).

Zimmer and colleagues (2012) also discovered that children with Autism Spectrum Disorder (ASD) tended to be selective eaters, which “place them at nutritional risk, but the nutrient deficiencies vary widely depending on the foods that the child chose to eliminate from their diet” (p. 550). Overall, they found that “53% were deficient in at least one nutrient, but these deficiencies varied widely among the group ranging from inadequate vitamin C, iron, vitamin D, niacin, riboflavin, vitamin B6, calcium, or zinc intake.” ASD is considered to be a complex disorder that arises from abnormal brain development, which impacts individuals’ verbal and nonverbal communication, social interactions, and results in repetitive patterns of behavior (Autism Speaks, 2015; Amaze, 2011). One in every 67 children (1.5%) has been diagnosed with ASD and boys (1 in 42 or 2.4%) are nearly five times more likely to be diagnosed with ASD than girls (1 in 189 or 0.5%) (CDC, 2015).

Another study found that “deficiencies or imbalances of omega-3 and omega-6 essential fatty acids” play an important role in developmental coordination disorder (DCD) (Kirby et al., 2011, p. 699). Developmental Coordination Disorder (DCD), sometimes referred to as developmental dyspraxia, is a chronic neurological disorder evident in the early stages of childhood. This disorder often results from brain messages not being accurately transmitted to the body, which affects children’s movements, coordination, and both gross and fine motor skills. And the difficulties that accompany DCD considerably impact the lives of children both in school and at home. In general, DCD is more prevalent among boys than girls; however, around six percent of children between five and 11 years of age are diagnosed with DCD each year in the United States (Journal of the Royal Society of Medicine (JRSM), 2007).

Finally, there is the developmental disorder known as Cerebral Palsy (CP). According to the United Cerebral Palsy Foundation (UCP),

CP is a term used to describe a group of chronic conditions affecting body movement and muscle coordination. It is caused by damage to one or more specific areas of the brain, usually occurring during fetal development; before, during, or shortly after birth; or during infancy.

And although CP generally affects people in different ways, it usually tends to impact one's balance, posture, reflexes, and body movement, in addition to muscle control, muscle coordination and muscle tone. Other impairments, which may limit intellectual achievement, such as epilepsy, hearing, learning, speech, and vision are also common among those with CP. Nonetheless, CP is the most widespread motor disability among children and affects nearly one in 323 children born in the United States (CDC, 2015). Girls are less likely to be diagnosed with CP than boys and African American children are more likely to be diagnosed with CP, compared to Caucasians and Hispanic children. Children with CP are generally diagnosed with at least one "co-occurring condition" such as epilepsy (41%) and ASD (6.9%) (CDC, 2015).

The vast majority of these developmental disorders frequently impair children mentally, physically, and behaviorally, which limits the prospect of scholastic achievement. And without the educational means necessary to obtain well-paying jobs, these children are more likely to become disadvantaged adults. According to Brothers this is called the "self-perpetuating saga of poverty to poor nutrition, to poor achievement, to poverty" (as cited in Tseng, Melion, & Bammer, 1980, p. 22).

Developmental Impact

Researchers have found that the consumption or lack of certain essential nutrients ultimately impacts brain development and function, which in turn, affects vision, coordination, mood, concentration, behavior and one's ability to learn (Evans, 1999, p. 108; Kirby et al., 2010, p. 718; Stevenson et al., 2014, p. 417; Zimmer et al., 2012, p. 549). It is for this very reason that researchers and practitioners need to find and treat the "underlying causes and strengthen the core abilities" of the body and brain (Greenspan & Greenspan, 2009, p. 28). Greenspan's tree metaphor accurately illustrates this key point, in that the "roots are the reasons for both healthy development and for the many different symptoms," while "the trunk is our thinking ability" and "the branches and leaves are the various abilities, like reading" (p. 28). It is for this very reason that work with such children needs to focus on the roots and the trunk, rather than on the branches and leaves, which are merely the outward symptoms. Nonetheless, there is more to the healthy development of children than merely good nutrition. Children also need to feel that they are safe, cared for, and above all else, loved.

Nutritious Foods

Being nutritionally fit is not as easy as simply eating fruits and vegetables, it also means being aware of what additives are in the foods that one decides to eat. Artificial food colors (AFC), pesticides, sugars, preservatives, gluten, casein and other chemicals commonly used in food production may impair the operation of the nervous system (Arnold et al., 2012; Greenspan & Greenspan, 2009, p. 16, 135, 141 & 143; Zhang et al., p. 276; Stevenson et al., 2014, p. 417; Hurwitz, 2013, p. 5; Bowman et al., 2004, p. 114). Although treatment via nutritious foods is easily implemented at home without the approval of a physician, there are "hidden challenges" that inevitably impact whether it is used and if it is maintained long enough to see any real results (Hurwitz, 2013, p. 4; Patten et al., 2012; Zhan et al., 2013). Interventions, such as the

gluten-free, casein-free (GFCF) elimination diet, require resources like time and money, which are limited for the vast majority of impoverished families with children with these conditions (Hurwitz, 2013, p. 4; Patten et al., 2012, p. 143; Zhang et al., 2013, p. 277).

When it comes to acquiring nutritious foods, accessibility due to cost is one of the key issues discussed in countless studies. Researchers who conduct studies involving the implementation of diets, such as the GFCF elimination diet, to treat children with developmental and learning disorders, have noticed that families with lower economic statuses have difficulty in maintaining such diets due to a lack in resources (Eriksen & Manke, 2011; Evans, 1999; Hurwitz, 2013; Patten et al., 2012; Sealy, 2010). Therefore, the children who would most likely benefit from such interventions are the ones who are continually unable to do so. In a study by Sealy (2010) on parents' perceptions of food availability, one mother, in a similar circumstance, commented that "nobody comes to my neighborhood and care about what I eat. It's all economics" (p. 572). Another mother frustrated at having to buy alternative (canned) foods and not being able to afford highly nutritious foods for her son shared that "I taught my son to read labels, we read labels" (p. 573).

Family Dynamics

Even though children from impoverished families are lacking items that are basic to most others, one of the primary concerns for anyone working with such children is their overall health and wellbeing. Evans (1999) summarizes this point nicely in his statement that "children from economically disadvantaged homes might be expected to evidence a particular need for dietary supplementation" (p. 109). This recurring issue, which significantly affects the entire family, can be referred to as a "generational problem" (Sealy, 2010, p. 566). This "generational problem" encompasses a child growing up in poverty, which involves poor nutrition and

impaired development that leads to learning and behavioral problems in school, which impacts scholastic achievements and results in acquiring low income jobs as adults, and then, it starts all over again (Sealy, 2010, p. 566; Tseng, Melion, & Bammer, 1980). Unfortunately, this is a never-ending “saga” that is far too often overlooked (Tseng, Melion, & Bammer, 1980, p. 22).

Parents in these families frequently have attained lower levels of educational achievement, which in turn affects their socioeconomic status and in what community their family resides. (Patten et al., 2012, p. 139). Furthermore, it is likely that such parents have multiple jobs in order to compensate for the lack of income. These demanding family systems problems “foster a need for quick and convenient meals,” which routinely are fast-food restaurants since they are “more readily available in poorer neighborhoods” (Eriksen & Manke, 2011, p. 588; Bowman et al., 2004, p. 116; Sealy, 2010, p. 568).

Nutrition and Elementary Aged Children

Countless studies have found connections between childhood malnutrition and externalizing behavior problems. According to Galler et al. (2011), teachers and parents reported that malnourished children tended to display a variety of externalizing behavior such as attention problems, aggressive behaviors towards peer, antisocial behavior, and difficulty cooperating with adults. They also noted that malnourished boys had a higher likelihood of acting out, whereas girls were more likely to experience sleep problems (p. 142). Other studies have found that deficiencies in vitamins and minerals such as protein, iron, and zinc to be associated with childhood brain impairments and executive cognitive deficits (Corapci, Calatroni, Kaciroti, Jimenez, & Lozoff, 2010; Liu, Raine, Venables, & Mednick, 2004). One study in particular discovered that “early malnutrition negatively affects brain growth and development and that brain impairments predispose to antisocial and violent behavior by affecting cognitive functions”

(Liu et al., 2004, p. 2011). These studies go on to emphasize just how prevalent this occurrence is, especially among children from disadvantaged environments (Corapci et al., 2010; Liu et al., 2004).

School-Based Interventions

A common theme resonating throughout the research literature involved interventions for school-aged children, which have become exceptionally popular (Evans, 1999, p. 107; Stevenson et al., 2014, p. 417; Patten et al., 2012, p. 138; Kirby et al., 2010, p. 699). According to Maté (2000), it is imperative that school personnel keep in mind that “*who are we trying to teach* must precede *what are we trying to teach*” (p. 216). With teachers being in a key role to identify potentially nutritionally deprived students and to initiate interventions, having teachers who are accurately trained in doing so is important. However, this may put teachers in a vulnerable position, in which they might need support for unexpected moments of emotional instability (Greenspan & Greenspan, 2009, p. 126). While children are at school, teachers take on the role of the responsible adult and in doing so they can become emotional when one of their students turns ill or injured. In a sense, teachers are a lot like parents in that they need support in the same way (Greenspan & Greenspan, 2009, p. 126). This support may be something as simple as having another faculty member to talk to.

Another possible school intervention regarding nutrition are school breakfast and lunch programs, which working parents rely on for their children (Eriksen & Manke, 2011, p. 560). Given this, schools need to consider changing their breakfast and lunch menus, especially for the elementary students, to ensure that students are receiving appropriate levels of micronutrients in their diets (“Research,” 1975). An increasing trend in schools in the United States is the availability of fast food options as school prepared meals (Bowman et al., 2004, p. 116). Of

course there are the “healthier food options, like salads” but they are often offered in limited quantities, or “on a first-come first-served basis” (Eriksen & Manke, 2011, p. 560). That is why additional actions ought to be taken in order to fashion schools around the needs of their students (Maté, 2000, p. 216).

The Role of the Social Worker in Children’s Nutrition

Despite the ever growing number of children being diagnosed with these disorders and others, insufficient effort is being done to decrease this prevalence. One means of prevention that social workers can significantly contribute to is that of early-childhood and school-based interventions, which have become exceptionally popular (Evans, 1999; Kirby et al., 2010; Maté, 2000; Paten et al., 2012; Sealy, 2010; Stevenson et al., 2014; Zhang et al., 2013). During the early years of children attending school, social workers, as well as other professionals, have taken initiative in educating children and their families about the important role that food plays in childhood development (Basch, 2010). Moreover, training teachers who spend many hours per day with their students, trained on the signs of nutritionally deprived students would assist school social workers in initiating interventions.

While the literature thoroughly addresses issues around socioeconomic status in relation to the use of nutrition-based interventions in the family, and the role of the school with regards to student nutrition, it has yet to examine in depth the role of the social worker. One study briefly touched on the role of social workers in “working with families to achieve optimal health through improved nutrition” and in frequently asking families about their “general eating habits and local access to quality recommended foods” (Sealy, 2010, p. 574). Furthermore, according to Whitaker (1993) social workers are frequently involved in acts of charity when it comes to hunger. He argues, however, that although “charity is necessary in our fight against hunger, but

charity alone simply can't do the job" (p. 495). Instead, we as social workers need to start by building awareness and interest of this dilemma, and in doing so, we can begin to create a movement that not only promotes justice but "the right to good nutrition as a basic human right" (Seipel, 1999, p. 423; Whitaker, 1993). This study hopes to explore the role of the social worker, as well as other similar helping professionals, in addressing the children's needs for nutritious foods both at school and at home by focusing primarily on the research question: What interventions are being taken by social workers in schools to improve nutritional education and food accessibility among school-aged children from disadvantaged families.

Methods

Research Question and Concepts

Children across the nation are diagnosed with developmental disorders every day. Research has shown that the majority of these children are from minority groups and impoverished families (Center for Disease Control [CDC], 2015; National Resource Center on AD/HD, 2015). According to the United States Department of Agriculture (USDA) 7.9 million children who live in low-income families where food was scarce and 914,000 children (1.2%) live in households in which one or more children experienced severe food insecurity. The question that this systematic literature review seeks to address is "what interventions are being taken by social workers in schools to improve nutritional education and food accessibility among school-aged children from disadvantaged families?"

Several of the key terms that will be discussed include: food accessibility, nutritious foods, nutritional deficiencies, developmental disabilities, disadvantaged children and their families, and social work interventions. According to the World Health Organization (WHO, 2015) *food accessibility* refers to when all people at all times have **access** to sufficient, safe, and

nutritious **food** in order to maintain a healthy and active life. *Nutritious foods* or *health food* refers to foods that are highly beneficial to good health, by containing vital nutrients, being organically grown and free of chemical additives, and that are eaten for their dietary value (Collins English Dictionary, 2012; Dictionary, 2015; Stedman's Medical Dictionary, 2002). Consumption of these foods during childhood can be crucial to a child's development. However, *nutritional deficiencies* occur when a person does not meet the recommended daily amount (RDA) of a nutrient, which is determined by how much the body needs to stay healthy (Healthline, 2015).

Such nutritional deficiencies also result in developmental disorders. *Developmental disabilities* refer to a group of psychiatric conditions, originating in childhood, that are due to an impairment in physical, learning, language, or behavior areas and that occur amongst all ethnic, racial, and socioeconomic groups (CDC, 2015; Megan Meier Foundation, 2015). Some common developmental and learning disorders are attention-deficit/hyperactivity disorder (ADHD), autism spectrum disorder (ASD), developmental coordination disorder (DCD), cerebral palsy, hearing loss, intellectual disability, learning disability, vision impairment, and countless others have been found to be affected by the consumption or inadequate consumption of certain foodstuff. And the majority of individuals who suffer from these developmental disorders are impoverished children from disadvantaged families. *Disadvantaged* is a term for individuals or groups of people who are lacking the normal or adequate necessities and comforts of life, which results in them having to face certain difficulties (Dictionary, 2015). According to Business Dictionary (2015) *poverty* is a "condition where people's basic needs for food, clothing, and shelter are not being met." There are also generally two different types of poverty:

- (1) Absolute poverty is synonymous with destitution and occurs when people cannot

obtain adequate resources (measured in terms of calories or nutrition) to support a minimum level of physical health. Absolute poverty means about the same everywhere, and can be eradicated as demonstrated by some countries. (2) Relative poverty occurs when people do not enjoy a certain minimum level of living standards as determined by a government (and enjoyed by the bulk of the population) that vary from country to country, sometimes within the same country. (para. 1)

Moreover, according to the Move for Hunger (2015)

Poverty is one of the main causes of hunger in the United States. Many individuals and families have to make a trade-off between buying food and paying for other expenses such as health insurance, utilities bills, medical expenses and others. Poverty affects access to nutritious meals and restricts resources to finding these nutritious meals. (para. 1)

Therefore, these terms are often used when discussing the overwhelming number of impoverished children diagnosed with developmental disabilities due to nutritional deficiencies.

Study Types

This study is an analysis of what interventions to improve nutritional education and food accessibility are being used and how they impact school-aged children from disadvantaged families. The studies that will be used would include quantitative and qualitative studies, literature reviews, meta-analyses, randomized controlled trials with both definitive and non-definitive results, cohort and case-control studies, cross sectional surveys, descriptive studies, and case reports. All studies will be focused on interventions for children from disadvantaged and poor families and that discuss the importance of nutritious foods. Effectiveness studies will be useful in determining what particular interventions are being used on the overall

improvement of food accessibility and nutritional education among disadvantaged families.

Levels of Publication

This study will include peer-reviewed literature, books, and grey literature. Several advocacy groups and research institutes have been involved in studying food accessibility as well as the importance of nutrition for lower income families.

Search Terms, Sensitivity and Specificity

A systematic literature review is intended to be authoritative on the topic, drawing from all relevant research within the specified parameters. In order to pull all relevant research from the chosen databases, both a sensitivity and a specificity search must be conducted. A sensitivity search will retrieve a high number of studies, including both relevant and irrelevant studies. It in essence casts a large net around studies, hoping to capture all potentially relevant studies. A specificity search will be more focused on all of the aspects of the topic and retrieve a smaller number of studies. These studies will be highly specific to the topic, but the search will likely miss other relevant studies due to its narrower lens (Petticrew & Roberts, 2005). These two searches help establish initially the potential scope of the search project.

For the sensitivity search, the two terms used included "behavior" and "nutrition" and the age group of "childhood (birth -12 yrs.)", which returned 212 results on the PsycInfo database. The three terms used for the specificity search included "social work", "nutrition", and "socioeconomic status", which returned 25 results on the PsycInfo database.

Review Protocol

The search terms that will be used include: "nutrition," "school," and "social services/social work". The databases that will be used to retrieve the peer reviewed articles for this literature review include SOCIndex. The search for grey literature will come from the

Center for Disease Control (CDC), the Institute for Research on Poverty, and Environmental Working Group (EWG).

Inclusion Criteria. In the database of SocIndex searches were carried out using the following combinations of search terms: “nutrition” AND “school” AND “social work” OR “social services.” All of the articles that showed up when using these search terms in the specified database were published after 2000. Accordingly, a total of 389 scholarly and peer reviewed articles fulfilled the search criteria and all of the results were generated using the prescribed search terms as well as being published by 2000 or later.

With childhood nutrition as the focus of this systematic literature review, articles involving the school setting, programs and policies concerning food, and women headed households were included in the study. Articles that discussed the duties of the social worker and especially the school social worker concerning interventions for improving childhood food security were of particular interest.

Exclusion Criteria. Of the 389 scholarly articles that met the initial search criteria, only five satisfied criteria to be incorporated into this systematic literature review. Articles involving potential interventions for improving childhood nutrition but failed to discuss the responsibilities of social workers were not included into this study since the roles for social workers is a crucial component that is being examined in this study. Chosen articles were also limited to those written in English and that were conducted within the United States.

Inclusion and exclusion decisions were made based on the title and abstract of the articles. Of the five articles that met the inclusion and exclusion criteria, the article on Increasing School Snack Bar Fruit & Vegetable Intake (2016) was excluded due to it not being available in full text. Thus, the final review consisted on four scholarly and peer reviewed articles. See

Table 1 for a complete list of the articles used for this systematic review.

Table 1: Reviewed Articles

Title, Date	Author(s)	Summary
Witnesses To Hunger: Participation Through Photovoice To Ensure The Right To Food, 2009	Mariana Chilton Jenny Rabinowich Christina Council Jennifer Breaux	This article discusses how the Witnesses to Hunger program is a participatory advocacy project that utilized the technique known as photovoice. By using this technique they hope to increase public awareness and understanding of people's basic human needs and rights. Therefore, there are first-hand accounts from the women who have taken pictures of their children in the hopes of informing the reader on the issue of food insecurity. The authors end the article by emphasizing the point that "one of the greatest tenets of the human rights framework is that the poor and the underserved must have a clear venue through which to participate in the development and implementation of the policies that most affect them" (p.83).
Roles for Schools and School Social Workers in Improving Child Food Security, 2014	Maryah Stella Fram Edward A. Frongillo Elizz M. Fishbein Michael P. Burke	Discusses how challenges related to food insecurity inhibit a child's school success. Although schools do offer a variety of services aimed at reducing food insecurity, there are still problems that limit the schools' capacity to produce positive changes. Throughout the article are dialogues with families regarding food related decisions, as well as children's experiences of food insecurity. They also have recommendations for school-based responses to food insecurity, which involve holistic and strengths-based approaches, and emphasize the import role that school social workers have in implementing the recommendations that are discussed.
A Call to Action for Social Workers: Food Insecurity & Child Health, 2014	Marcos J. Martinez Elisa Kawam	Primary focus is on food insecurity and how households with children, are from a minority group, and living in poverty are at the greatest risk for experiencing food insecurity. They discuss how food insecurity can have lasting negative effects on children into adulthood. Encourage social workers to do more in improving food security among poor families, including improvement of the already existing programs and policies such as NSLP, SBP, SNAP, and the Special Supplemental Nutrition Assistance Program for Women, Infants and Children.
Oyler School Against The Odds, 2015	Amy Scott	Scott talks about how "Lower Price Hill's Oyler School is part of a growing national movement to help poor children succeed by meeting their basic health, social, and nutritional needs at school. (p. 52). During the process of rebuilding the school, city leaders decided to get input from the people in the community as to what they would like the new school to do. This led to health clinics, vision centers, a dental office, counseling centers, additional food resources and more all being included inside of the new school. All of these partnerships were considered self-sustaining since the school simply provided the space for all the organizations. As a result, these impoverished families were able to get multiple needs met within one central building that most of them go to because it is also the community-based school.

Research Synthesis

The purpose of this systematic literature review was to explore the question: “What interventions are being taken by social workers in schools to improve nutritional education and food accessibility among school-aged children from disadvantaged families?” Using the SocIndex database and working within the inclusion and exclusion criteria indicated, four peer-reviewed articles met criteria and were reviewed. This result was surprising and in and of itself highlights that in English-speaking countries, little research is conducted and disseminated in the peer-reviewed literature regarding the ways in which school social workers may intervene with food- and hunger-related issues among their students.

Of the four articles in this review, one (25%) focused on interventions used at one particular school (Scott, 2015). Out of the remaining three articles used, one (25%) thoroughly examined the importance of social policies and programs (Chilton, Rabinowich, Council, & Breaux, 2009). Of the remaining two articles included in this systematic literature review, only one discussed the duties of social workers in the application process to the children and their families, the school, and public programs and policies (Martinez & Kawam, 2014). The final article focused on the duties of social workers with regards to children and families in the context of the school setting, one aspect of which was addressing lack of access to nutritious foods (Fram, Frongillo, Fishbein, & Burke, 2014).

Furthermore, all four articles incorporated into this systematic literature review emphasized the issues and interventions with improving childhood nutrition. One article in particular contained research specifically on female headed households with children, while the majority of these articles simply referred to these households as being low-income families. None of the articles incorporated in this systematic review explicitly focused on

research involving only male headed households.

Virtually all of the research articles involved in this systematic review comprised self-reported, qualitative data acquired through in-depth interviews and reviewing previous documents. Out of the four research articles only one (25%) included only qualitative data (Scott, 2015), whereas the remaining three articles employed both qualitative in addition to quantitative methodologies (Chilton et al, 2009; Fram et al., 2014; Martinez & Kawam, 2014).

All of the articles included in this systematic literature review focused on improving childhood nutrition. While school-based interventions were the primary focus of the research, the interventions incorporated into this research broadened to include other various forms such as increasing public awareness.

Three of the incorporated articles (75%) focused explicitly on school-based interventions for improving children's nutritional intake (Fram et al., 2014; Martinez & Kawam, 2014; Scott, 2015). The fourth article primarily focused on the matter of public awareness in regards to issues surrounding childhood nutrition (Chilton et al, 2009). Public awareness typically involves advocating for policies and programs, demanding human rights, reducing stigmas, as well as other things.

Thematic Analysis of the Relevant Literature

Through analysis of the four pieces of research literature multiple themes emerged regarding various issues and interventions for improving childhood nutrition which have been categorized within the three areas of the conceptual framework, the ecological perspective: micro, mezzo, and macro. The five themes that will be discussed within the context of these three pillars are: 1) policies, programs, and basic human rights; 2)

deterrents and barriers to acquiring nutrition; 3) the school setting; 4) food quantity isn't enough; and 5) duties of the social worker.

Macro Level

Policies, programs, and basic human rights. At this level in the ecological perspective one of the major items discussed in the identified studies were the programs that can help people in acquiring additional resources of food, such as the Supplemental Nutrition Assistance Program (SNAP) and the Special Supplemental Nutrition Program for Women, Infants, and Children. A couple of key issues involving these and other programs related to the Child Nutrition Reauthorization of 2009 were that “current policies aimed at childhood food insecurity are underfunded and underused” (Martinez & Kawam, 2014, p. 371) and “there has been little effort to make these opportunities available to the millions of program participants” (Chilton et al., 2009, p.78). However, Chilton et al. (2009) argued that implementation of the “witnesses to hunger program,” which utilizes the “‘photovoice’ technique to engage mothers to take photos and record their stories about poverty and hunger with the intent to inform social welfare policy in the US” (p. 73) would lead to dramatic changes being made regarding people’s right to food.

Chilton et al. also emphasized the importance of human rights, especially those of women and children in correlation with the “right to food” (p. 73). Regarding children Article 27 of the Convention on the Rights of the Child stated that “children have the right to ‘a standard of living adequate for the child’s physical, mental, spiritual, moral and social development’” (Chilton et al, 2009, p. 77). In other words, children have “the right to a minimum standard of living,” which included “the rights to health, food, shelter, and social services” (p. 77). And the right to food is defined as the

right to have regular, permanent and unobstructed access to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of people to which the consumer belongs, and which ensures a physical and mental, individual and collective fulfilling and dignified life free of fear. (Chilton et al, 2009, p. 77)

Clearly all of these studies found that the connection between government policies and programs and child and family hunger was something of significant importance and an area for potential changes to be made. It is for this reason and others that interventions pertaining to policy advocacy, civic participation of the individuals who are affected by these policies and programs, and public awareness concerning childhood nutrition are incredibly important in changing the current situation (Chilton et al, 2009; Martinez & Kawam, 2014).

Food quantity isn't enough. Unfortunately when it comes to issues related to children's nutrition and food insecurity, one of the basic assumptions most frequently made is that "the appropriate response is to give them more food" (Fram et al., 2014, p. 233). Fram et al., (2014) emphasized that sometimes the most obvious and simplest answers are not always the best. For example, in instances involving childhood nutrition, simply providing a child with additional food does not resolve the problem. They argued that there is more to childhood nutrition than solely food, and that there are usually underlying causes that need to be taken into consideration in order to truly resolve the issue at hand. Chilton et al., (2009) echoed this sentiment, and that until we do so, suffering will continue due to a failure to recognize these outside forces. If nothing else, we should at least endeavor to increase public awareness because "food insecurity is a significant and growing public

health problem in the United States” (Chilton et al, 2009, p. 78).

Duties of the social worker. The literature demonstrated that social workers generally served as one of the primary connections between the development of policies and programs and the people that they were meant to help. Therefore, Chilton et al. (2009) argued that social workers need to participate in work to “develop programs that seek to respect, protect, and fulfill human rights,” (p. 77) and then turn around and adopt these newly developed programs and policies as best practices. When appropriate steps are not taken Chilton et al. emphasized that it is equally important that social workers “demand accountability” on issues related to the health and well-being of impoverished children (p. 75).

Mezzo Level

Deterrents and barriers to acquiring nutrition. Virtually anything and everything discussed in regards to this level of the ecological perspective has to do with the schools and the surrounding communities. Therefore, the vast majority of the issues encompassed in this particular level are deeply rooted in stigmas held by the surrounding communities (Martinez & Kawam, 2014). One growing issue that has become increasingly evident, especially in school settings, among children and families with food insecurity is that of secrecy. Fram et al., (2014) noted that in recent years schools have become a place where children with problems related to food insecurity can be identified however, children who do not want to be identified as such may intentionally avoid interactions that would label them as having food related problems (Fram et al., 2014). They even discovered that in instances when children were aware that the school could provide them with additional food resources children generally “chose not to access or ask for help with food related

problems,” which resulted from “fears about the social implications of receiving food assistance and related stigma” (p. 236). Children also associated embarrassment, discomfort, and discrimination in revealing to others that their family was experiencing food hardships (Chilton et al, 2009; Fram et al., 2014).

Two additional steps that children were taking in order to keep their food insecurity hidden were those of increased awareness to signs of food insecurity, and increased efforts in the management of food resources. Fram et al. (2014) described *awareness* as “when a child experiences some aspect of the household's food insecurity and understands that experience as being related to the family's inability to meet food needs” (p. 234). The authors go on to say that awareness can usually be divided into three basic categories: cognitive, emotional, and physical (Fram et al., 2014).

Cognitive awareness refers to “a child's knowledge that food is scarce or of ways the family manages food problems” (Fram et al., 2014, p. 234). Children who were cognitively aware knew when food resources were becoming low due to changes in the quantity of and type of foods they were eating. They were also able to identify when and from whom their family would be receiving additional food resources, like through monthly food stamps. Likewise, Fram et al. (2014) noticed that a number of children who were experiencing food hardships themselves, were also able to identify other children from school as ones with food hardships.

Emotional awareness refers to “feelings such as worry, sadness, or anger that are related to food insecurity” (Fram et al., 2014, p. 234). Feelings of sadness and worry due to there being a lack of food at home to eat. Or happiness because at least there was something to eat. And anger at having to eat certain foods, like “Oodles of Noodles” (Chilton et al,

2009, p. 80; Fram et al., 2014, p. 234).

Physical awareness refers to “physical feelings such as hunger, pain, tiredness, and weakness that are related to lack of sufficient food, and is varied from an occasional to an ongoing experience” (Fram et al., 2014, p. 234). Countless children described feelings of hunger, stomach pain, and light-headedness after not having eaten enough for quite some time. According to Fram et al. (2014) “physical awareness can also be related to poor quality of available food” (p. 234). This was especially evident in school settings where students expressed their disgust towards some of the foods served during school meals.

Likewise, children frequently went about managing food resources in three different ways: following parent initiated strategies, initiating their own strategies, and gathering additional food resources (Fram et al., 2014, p. 234-235). In a number of instances parents initiated strategies for managing food resources, but on occasions children described how they had to take responsibility by initiating a strategy for their siblings and self to follow. Although the majority of children preferred not to tell anyone about their family’s food hardships, Fram et al (2014) learned that on very rare occasions children would make an exception by visiting neighbors, friends, and extended family members in order to acquire supplementary sources of food. In any case, the authors highlight how the theme of secrecy was viewed by both children and their parents as being one of immense importance.

The school setting. “School as a place to get food” was one of the overarching themes throughout one of the research articles (Fram et al., 2014, p. 235). With over 50% of U.S. children enrolled in public schools now qualifying for free and reduced-price lunches, school meals have become a significant source of children’s daily nutritional intake (Fram et al., 2014; Scott, 2015). Fram et al. (2014) additionally emphasized that for the majority of

the students enrolled in the free or reduced-price lunch program, school meals have become a major source of supplemental nutrition that they would otherwise not get at home. Due to the dramatic increase in children receiving these meals at school, school staff have begun to notice the ways in which nutrition impacts students' academic achievement at school (Fram et al., 2014; Martinez & Kawam, 2014; Scott, 2015). It is for this reason and others that school programs such as the National School Lunch Program (NSLP) and the School Breakfast Program (SBP) were originally created under the Child Nutrition Reauthorization of 2009 (Chilton et al, 2009, p. 76). Additional school-based interventions, as noted by Feed America (2013) that have just recently become popular among a growing number of schools are those of the after school snack or meals, holiday food baskets, on site food pantries, and food backpacks, which allows students to "bring home weekly backpacks filled with easy-to-prepare, nonperishable foods to help children through the weekends" (as cited in Fram et al., 2014, p. 232).

A few of the studies discussed how one of the primary benefits to school-based interventions involved the school as a place for initial assessment of food related problems (Fram et al., 2014; Martinez & Kawam, 2014). Fram et al. (2014) called attention to the fact that teachers see their students nearly every day of the week and were in a position to observe changes that were occurring amongst their students. And once a student has been identified as having food related hardships schools may effectively respond. They also argued that with children frequently coming to school on a daily basis, schools were an ideal place for food related responses and programs (Fram et al., 2014). However, Fram et al. (2014) recommended that in the rare circumstances when schools were unable to provide appropriate assistance to children and their families that they could at least link families to

other resources available in the surrounding.

At the present moment however, the drawbacks to school-based nutrition interventions significantly outweigh the benefits (Fram et al., 2014, p. 235). A key issue discussed in a couple of studies involved the underlying point that school-based interventions were only available during school (Martinez & Kawam, 2014; Scott, 2015). In spite of this there is still the matter of school meals not containing high nutritional value. Researchers found that school lunches did not improve children's immediate health, nor did they have any "lasting health benefits" for children (Fram et al., 2014, p. 232). Numerous students also disclosed to researchers that they did not like a number of foods served at school (Fram et al., 2014). And according to Fram et al. (2014) on the occasions that they did like the meals served in regards to breakfast, students had to choose between either eating breakfast or doing academic work, in which they would usually choose school work over food.

Another common issue involved how children and their families were assessed and informed about school resources. Fram et al. (2014) discovered that families frequently had little to no knowledge on the resources that schools could provide them with, so simply relying on families to identify areas for which they required assistance was an exceptionally rare occurrence. Likewise, they stressed the importance of school staff needing to do more than merely offering or inviting families to attend meetings that would benefit them. Therefore, the authors highly recommended that families be informed about the specific benefits related to particular school programs and meetings, which in turn would motivate a higher percentage of families to sign up for and attend these means of assistance.

Lastly, issues concerning the overall knowledge and awareness of school staff on the

subject of childhood nutrition were a must. With teachers having a fundamental role in the initial identification and assessment of children's food related problems, Fram et al. (2014) thought it was crucial that they be appropriately educated on matters concerning childhood nutrition and food insecurity so as to improve their awareness and perceptions on the matter. Moreover, they believed that having schools take the necessary steps to ensure that their programs were being properly implemented and utilized by those who used and depend on them for additional resources was a crucial change.

Food quantity isn't enough. With programs constantly changing and new ones being created Martinez and Kawam (2014) emphasize the importance of how individuals who are involved in helping children and their families to find assistance took the necessary time to ask if these programs are truly helping in "alleviating hunger," and "promoting healthy growth" among children (p. 371). Determining the effectiveness of such programs and interventions in application to a particular family would prove useful in identifying just what forms of responses are needed by each family. In doing so, we would hopefully replace our initial habits of assuming that simply providing the family with additional sources of food would be enough. According to Fram et al. (2014) "giving food to hungry children feels good, but we risk perpetuating food insecurity if we choose a feel-good response that detracts attention from or quiets our motivation for sustainable solutions to food insecurity and its causes" (p. 237). It is for this reason and others that appropriate responses to childhood food hardships involve more than just providing food, and rather focuses on changing the underlying causes of food insecurity.

Duties of the social worker. It should not come as a surprise that the majority of the duties that social workers do at this level involved the surrounding communities as well

as the schools (Scott, 2015). According to Fram et al., (2014) the duties of the social worker, especially the school social worker, can be divided into three main themes: education and training, need for systematic attention, and need for meaningful assessment and holistic response (p. 237-238).

Fram et al. (2014) discussed how possessing knowledge on childhood food insecurity puts social workers in a position to educate other school staff on this growing public concern. Furthermore, they emphasized that by helping school staff in acquiring the skills necessary for effectively engaging children and their families, social workers extend “the need for sensitive, nonstigmatizing interactions with children and families” (p. 236)

Then there was the need for systemic attention, which according to Fram et al. (2014) results from children and their families actively trying to hide their food hardships from others. So, they proposed that it is the social worker’s responsibility to “explore ways of reaching out to all children to learn about potential food needs” (p. 237). In their research opportunities such as these were easily built into already existing school activities with the intent of identifying “children who staff said would never have been considered at risk for any food- or poverty-related difficulty” (p. 238).

Finally the theme regarding a need for meaningful assessment and holistic response was presented (Chilton et al, 2009). After having identified a child with food hardships, social workers should be sure to provide that child with the appropriate services. Again, sometimes merely providing people with food is not enough and there are other forces involved. In doing so, Fram et al. (2014) believed that social workers and schools “should be prepared to learn from children and families what is causing them to have food struggles” (p. 238). Utilizing the ecological systems perspective in the initial assessment efforts is

something that they also thought would help social workers in planning and facilitating constructive responses to the particular needs of children and their families.

Micro Level

Deterrents and barriers to acquiring nutrition. A common theme at this level throughout the research studies, especially in the case of households headed by women, was that of “trade-offs,” which refers to “sustaining one aspect of their families’ lives on a limited income often comes at the expense of other necessities for a healthy and productive life” (Chilton et al, 2009, p. 82). According to Chilton et al. (2009) these women were “forced to choose between necessities quantified in monetary value, such as food, housing, and heating bills, the trade-offs that low-income women must make speak to a quality of life that is riddled with risk” (p. 82). Therefore, they highly emphasized that we should also “portray the experience of hunger as an unacceptable, health-defying series of trade-offs” (p. 74).

Several other barriers and deterrents associated with this specific level of the ecological perspective found within the four articles were those of poverty, economic deserts, barriers to accessing food resources, transportation problems, economic challenges, lack of access, and countless others (Chilton et al, 2009; Fram et al., 2014; Martinez & Kawam, 2014; Scott, 2015). Difficulties also resulted from parents frequent attempts at protecting their children from experiences related to food hardships. Despite parental beliefs that they were protecting their children from worries and hardships associated with food insecurity, children still experienced drawbacks from food insecurity (Fram et al., 2014, p. 234).

Duties of the social worker. At this particular level social workers were

encouraged to advance their knowledge and practice due to the growing concerns about child food insecurity and hunger (Fram et al., 2014, p. 238). Martinez and Kawam (2014) stressed that knowing how programs related to reducing the occurrence of childhood food insecurity was something that social workers needed to be involved in (p. 371). They continued by stating that “learning about food insecurity, the implementation of existing aid programs, and the development of new programs aimed at alleviating food insecurity” were all places that social workers needed to be involved in (p. 372).

Discussion

This systematic review was developed to investigate the current body of literature available on the topic of how school social workers are and could be intervening with children and families undergoing food insecurity. Therefore, the goal of this research was to take into consideration all relevant forms of literature on the subject, rather than attempting to answer the question with a simple sampling of the literature. This systematic review was created using inclusion and exclusion criteria, in addition to searches of sensitivity and specificity, as a method of discovering both relevant and up-to-date research. What emerged from this literature review is how social workers, especially school social workers, and other school staff can utilize school-based programs as a basis for interventions to provide children and their families with resources to improve their health and well-being through improving their nutritional intake. These forms of school-based interventions can also offer opportunities for schools to learn from students and their families about the causes of their food struggles (Fram et al., 2014). These findings suggest that there are interventions and issues at each level of the ecological perspective and across the three levels of the ecological perspective there are five themes related to improving children’s nutrition.

The first theme evident in the literature focused on the importance of policies, programs and human rights, with one of the most basic human rights being that of the right to food, in improving nutritional intake among children. Despite continuous changes being made to programs and policies concerning children's nutrition there are still issues related to funding, utilization, and availability (Chilton et al, 2009; Martinez & Kawam, 2014). However, with the development of new programs, such as the "witnesses to hunger program," which utilizes the photovoice technique, also comes opportunities for informing and increasing public awareness on these growing health concerns (Chilton et al., 2009, p. 73). By expanding the public's knowledge about these issues related to childhood food insecurity we also increase the likelihood of children's right to "a standard of living," which includes "the rights to health, food, shelter, and social services" that are a basic necessity to human development (Chilton et al., 2009, p. 77). In order for this to become reality interventions pertaining to policy advocacy, civic participation of the individuals who are affected by these policies and programs, and public awareness concerning childhood nutrition need to first occur (Chilton et al., 2009; Martinez & Kawam, 2014).

The second theme evident throughout the literature involved discussion on the innumerable deterrents and barriers to acquiring nutrition that these children and parents experience on a daily basis. One of the most significant deterrents to acquiring nutrition services stems from public attitudes and views, which become the norm (Chilton et al., 2009). Likewise, fear and stigma were two words that appeared throughout the literature, especially in the context of discussions with parents and children who would benefit from such services (Fram et al., 2014; Martinez & Kawam, 2014). This frequently led such families to encourage acts of secrecy when out in public and even more so when at school, which makes it difficult for

school social workers and staff to identify children experiencing food hardships (Fram et al., 2014).

In addition, one of the predominant barriers to improving these families' health and well-being is due to their poverty. Moreover, these families were primarily living in households headed by only women (Chilton et al., 2009). And according to the U.S. Census Bureau (2015)

Out of about 12 million single parent families in 2014, more than **80%** were headed by single mothers. Today 1 in 4 children under the age of 18 — a total of about 17.4 million — are being raised without a father⁴ and nearly half (**45%**) live below the poverty line.

Another common theme discussed by these women was that of “trade-offs,” which involved having to choose between things like using money to buy food or using money to pay off a bill (Chilton et al., 2009, p. 82). No one should ever be put into a situation where they have to choose between two basic parts to “a standard of living,” such as shelter and food, especially when both are necessary for basic human survival (Chilton et al., 2009, p. 77). That is why we need to continue to “portray the experience of hunger as an unacceptable, health-defying series of trade-offs” (Chilton et al., 2009, p. 74) along with eliminating the “fears about the social implications of receiving food assistance and related stigma” (Fram et al., 2014, p. 236).

The third theme found in the literature involves the school setting and how it could potentially become an ideal place for early childhood interventions concerning food security. With staff knowledgeable about childhood food insecurity they could become effective in identifying students experiencing food hardships. Then schools could link families to additional resources, including those in the surrounding community. Because children attending school practically every day, schools would be an ideal place to have interventions for reducing the occurrence of childhood food insecurity. However, there are a number of drawbacks that would

first need appropriate attention. At the moment, schools primarily depend on teachers for identifying students who may be in need but not every student who is in need will be identified. This is due to teacher's perceptions and awareness of the signs of hunger, as well as certain unconscious biases and discrimination that they might have towards particular people (Fram et al., 2014).

There are also concerns about the nutritional value of the meals provided by the school. For the majority of hungry students school meals make up their main source of nutritional intake for the day, but researchers found that when they asked students if they liked to eat the foods served at school most students disclosed that they did not (Fram et al., 2014). Studies also found that there were generally no short or long-term health benefits from eating meals provided at schools (Fram et al., 2014). Luckily schools are beginning to incorporate new programs and make changes that will help in ensuring that more students receive the resources that they need. After school meals and snacks, on site food pantries, holiday food baskets, and backpack programs are just a couple of the new programs and services that schools are starting to incorporate (Fram et al., 2014). Schools are working equally as hard to improve parents' knowledge and understanding of the various programs that are already available through the schools, in addition to improving school staff's knowledge on childhood food insecurity (Fram et al., 2014).

The fourth theme evident all throughout the literature addresses how food quantity isn't enough. After learning that someone is experiencing hardships related to food one usually responds by giving that person more food, and although this might attend to the person's immediate need for food, it does not necessarily address the underlying causes for that person's hunger. Researchers like to refer to this as the "feel-good response," which merely "detracts

attention from or quiets our motivation for sustainable solutions to food insecurity and its causes” (Fram et al., 2014, p. 237). Therefore, the first step that needs to be taken is that of identifying the underlying cause(s), only then will we be able to truly attend to the problem in its entirety. It is for this reason that we have to be sure to use an appropriate response in order to actually help children who are experiencing food hardships.

The fifth and final theme evident in the literature concerned the duties of the social worker. For starters, social workers ought to be actively involved in the development of policies and programs that impact the clients that they generally work with. They are also responsible for and obligated to participate in work to “develop programs that seek to respect, protect, and fulfill human rights” (Chilton et al, 2009, p. 77). Rather than conceptualizing the work of the social worker only as immediate help with children in schools, social workers should see their work as needed on the larger systemic levels that lead to the issues they address with children in the first place. Then, we can adopt these newly developed programs and policies as best practices in our work with clients (Chilton et al, 2009).

According to Fram et al., (2014) the duties of the school social worker, can be divided into three main themes: education and training, need for systematic attention, and need for meaningful assessment and holistic response. They discussed that it is because social workers possess knowledge on childhood food insecurity that they are given the responsibility of educating and training other school staff so that they too can effectively engage children and their families in sensitive and nonstigmatizing interactions. In doing so, social workers and school staff “should be prepared to learn from children and families what is causing them to have food struggles” (Fram et al., 2014, p. 238). Fram et al. (2014) highlights how social workers also have the responsibility to “explore ways of reaching out to all children to learn

about potential food needs” (p. 237) which can easily be incorporated into existing school activities. Therefore, they recommend that school social workers “bring the ecological systems perspective into assessment efforts” in order to “plan for and facilitate effective responses to child and family needs” (p. 238). Finally, social workers are encouraged to continue in advancing their knowledge and practice with the hopes of potentially “learning about food insecurity, the implementation of existing aid programs, and the development of new programs aimed at alleviating food insecurity” in order to better serve those children and families with food insecurity (Martinez & Kawam, 2014, p. 372).

This systematic literature review suggest that schools can be used as a place for initial assessment and intervention for children and families who are experiencing food related hardships. These initial assessments and interventions, which are taught to school staff by social workers, are utilized to determine the cause(s) of the children’s and families’ food insecurity. Increasing people’s awareness and knowledge of food insecurity is one of the first steps in diminishing its occurrence among impoverished children and families. Once this has been accomplished those who are experiencing food insecurity will be more likely in coming forward for assistance due to a change in societal views and attitudes towards them.

Limitations

While this systematic review was designed to include all pertinent and current research on the topic of interventions taken by social workers as a means of improving nutritional education and food accessibility among children from disadvantage families, there were still several limitations to this study. First, despite this topic being one that dated back to the 1980s, there was little research on the topic, which was shocking to discover. And while there were a considerable number of research studies conducted in Australia and other countries concerning

childhood food security, there were very few studies concerning this issue in the United States. Amongst the several articles that did discuss the topic of needing to improve childhood nutrition were even fewer articles that took into consideration the role of the social worker in this matter. Therefore one of the major limitations of this systematic review has to do with the small sample of research available for review.

This systematic review was limited to articles and research that were peer-reviewed, scholarly, and written in English, which was done to ensure the thoroughness of the study but may have resulted in the omission of some less structured and reviewed research. Likewise, by focusing specifically on literature that was peer-reviewed, scholarly, and evidence-based meant the exclusion of other pieces of literature, such as grey literature, that have not been formally published. With interventions to improve childhood nutrition at the center of this research, only articles involving efforts by school social workers to improve childhood nutrition were included in the research.

Further Research and Implications

One of the first items of concern to appear from conducting this systematic literature review had to do with just how limited the research was around the utilization of school-based interventions for improving children's nutritional intake. Issues involving academic achievement, behavioral disorders, developmental disabilities, and others were more frequently documented in connection to the incidence of childhood food insecurity. While these issues do frequently result from children being undernourished, they do not take into consideration the ways in which we might go about preventing or reducing the occurrence of such issues among children. It is for this reason that additional research regarding the use of school-based interventions in attending to the incidence of childhood food insecurity is

needed in order to better substantiate its validity.

One possible reason for the limited research could be due to the attitudes and views deeply rooted in societal norms and stigmas. Because unless someone is actually experiencing, witnessing, or working with someone to overcome food insecurity, the likelihood is that this is something we generally try to ignore by sweeping it under the rug. Therefore, unless we are truly obligated or interested in actually making a difference on this or any other issue, we usually will not do so, especially when it does not directly benefit us. However, the NASW Social Worker Code of Ethics (2008) challenges us to think about our clients' and students' benefit as the forefront of our work in their statement that "the primary mission of the social work profession is to enhance human well-being and help meet the basic human needs of all people, with particular attention to the needs and empowerment of people who are vulnerable, oppressed, and living in poverty" (para. 1).

Another form of an empowerment approach that should be taken into consideration is that of aligning with the parents and highlighting the point that food insecurity is not their fault, but a fault of society. This would appear to be an important therapeutic strategy, especially for clinical social workers.

All of the research included in this systematic literature review was qualitative in nature, which typically includes in-depth interviews and personal stories to describe a problem or condition from these points of view in order to formulate a theory or hypothesis. However, it would be important to gather additional information that is more rooted in quantitative methods. The use of quantitative methods that uses pre-specified concepts, constructs, and hypotheses to test a theory, would provide more data on the observable effects of a particular intervention and how it improves childhood food security. And because this form of data collection is primarily

based on numbers, and involves more breadth and less in-depth data, the findings are more likely to be considered generalizable. Thus, we could adequately determine what interventions are actually occurring across schools and eventually demonstrate which of them are effective at eliminating food insecurity and for whom.

At the moment, schools primarily depend on school-based programs, such as the National School Lunch Program (NSLP) and the School Breakfast Program (SBP), to attend to students' immediate needs regarding food hardships, as well as some community resources like the Supplemental Nutrition Assistance Program (SNAP). However, given that simply supplying a family or child with additional food resources generally does not resolve the actual cause(s) of their food insecurity, it is crucial that action is taken so as to get to the source of the problem. Through continued research conducted on interventions for alleviating instances of child and family food insecurity, there is hope that one day public attitudes and views towards those with food related hardships will change and hopefully appropriate forms of intervention will eventually be incorporated into the elimination of food insecurity.

References

- Bowman, S. A., Gortmaker, S. L., Ebbeling, C. B., Pereira, M. A., & Ludwig, D. S. (2004, January). Effects of Fast-Food Consumption on Energy Intake and Diet Quality Among Children in a National Household Survey. *PEDIATRICS*, 113(1), 112-118.
- Chilton, M., Rabinowich, J., Council, C., & Breaux, J. (2009). Witnesses To Hunger: Participation Through Photovoice To Ensure The Right To Food. *Health and Human Rights Journal*, 11(1), 73-85. Retrieved from SocIndex
- Corapci, F., Calatroni, A., Kaciroti, N., Jimenez, E., & Lozoff, B. (2010). Longitudinal Evaluation of Externalizing and Internalizing Behavior Problems Following Iron Deficiency in Infancy. *Journal of Pediatric Psychology*, 35(3), 296-305.
DOI10.1093/jpepsy/jsp065
- Eriksen, S. J. & Manke, B. (2011, November). Because Being Fat Means Being Sick: Children at Risk of Type 2 Diabetes. *Sociological Inquiry*, 81(4), 549-569. DOI: 10.1111/J.1475-682X.2011.00392.x
- Evans, Roy. (1999). Learning Difficulties and Nutrition: Pills or Pedagogy?. *Early Child Development and Care*, 158(1), 107-111. DOI:10.1080/0300443991580109_2
- Fram, M., Frongillo, E., Fishbein, E., & Burke, M. (October 2014). Roles for Schools and School Social Workers in Improving Child Food Security. *National Association of Social Workers*, 36(4), 231-239. doi:10.1093/cs/cdu018
- Galler, J., Bryce, C., Waber, D., Medford, G., Eaglesfield, G., & Fitzmaurice, G. (2011). Early malnutrition predicts parent reports of externalizing behaviors at ages 9-17. *Journal of Nutritional Neuroscience*, 14(4), 138-144. DOI 10.1179/147683011X13009738172521

Greenspan, Stanley & Greenspan, Jacob. (August 11, 2009). *Overcoming ADHD: Helping Your Child Become Calm, Engaged, and Focused - Without A Pill*. Philadelphia, PA: Da Capo Lifelong Books

Hurwitz, S. (March 2013). The Gluten-Free, Casein-Free Diet and Autism: Limited Return on Family Investment. *Journal of Early Intervention*, 35(1), 3-19. Downloaded from jei.sagepub.com.

Kirby, A., Woodward, A., & Jackson, S. (October 2010). Benefits of omega-3 supplementation for schoolchildren: review of the current evidence. *British Educational Research Journal*, 36(5), 699-732. DOI: 10.1080/01411920903111557

Liu, J., Raine, A., Venables, P., & Mednick, S. (November 2004). Malnutrition at Age 3 Years and Externalizing Behavior Problems at Ages 8, 11, and 17 Years. *American Journal of Psychiatry*, 161, 2005-2013. <http://ajp.psychiatryonline.org>

Martinez, M. & Kawam, E. (October 2014). A Call to Action for Social Workers: Food Insecurity & Child Health. *National Association of Social Workers*, 59(4), 370-372. doi:10.1093/sw/swu035

Maté, Gabor. (2000) *Scattered. How Attention Deficit Disorder Originates and What You Can Do about It*. Penguin Books

Patten, E., Baranek, G., Watson, L., & Schultz, B. (2012). Child and Family Characteristics influencing Intervention Choices in Autism Spectrum Disorders. *Focus on Autism and Other Developmental Disabilities*, 28(3), 138-146. DOI: 10.1177/1088357612468028

Research: Hyperactivity, Placement Centers. (March 1975). *Nation's Schools and Colleges*, 2(3), 24-26.

Scott, A. (2015). Oyler School Against The Odds. *American Sociological Association*,

14(2), 52-59. doi:10.1177/1536504215585782

Sealy, Yvette. (2010) Parents' Perceptions of Food Availability: Implications for Childhood

Obesity. *Social Work in Health Care*, 49(6), 565-580. DOI:10.1080/00981381003635353

Seipel, M. (September 1999). Social Consequences of Malnutrition, *National Association of Social Workers*, 44(5), 416-425.

Stevenson, J., Buitelaar, J., Cortese, S., Ferrin, M., Konofal, E., Lacendreux, M., Simonoff, E.,

Wong, I., & Sonuga-Barke, E. (2014). *Journal of Child Psychology and Psychiatry*, 55(5), 416-427. doi:10.1111/jcpp.12215

Tseng, R., Melion, J., & Bammer, K. (1980). The Relationship Between Nutrition and Student Achievement, Behavior, and Health – A Review of the Literature. California State Department of Education, Sacramento, CA.

Whitaker, W. (July 1993). A Charity/Justice Partnership for U.S. Food Security, *National Association of Social Workers*, 38(4), 494-497.

Zhang, J., Mayton, M., & Wheeler, J. (2013). Effectiveness of Gluten-Free and Casein-Free Diets for Individuals with Autism Spectrum Disorders: An Evidence-Based Research Synthesis, *Education and Training in Autism and Developmental Disabilities*, 48(2), 276-287.

Zimmer, M., Hart, L., Manning-Courtney, P., Murray, D., Bing, N., & Summer, S. (2012). Food Variety as a Predictor of Nutritional Status Among Children with Autism. *Journal of Autism Developmental Disorders*, 42, 549-556. DOI 10.1007/s10803-011-1268-z